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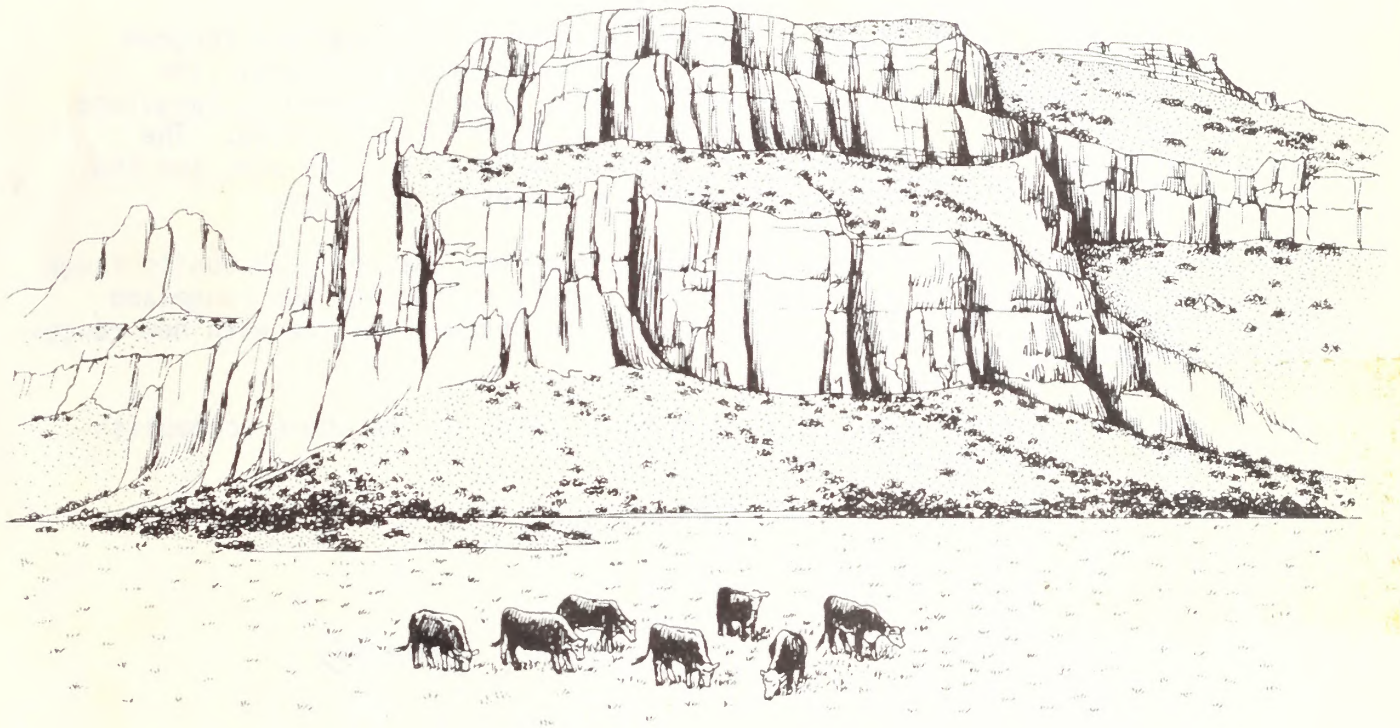
VERMILLION AND SHIVWITS RESOURCE AREAS



Rangeland Program Summary Updates 1982

Prepared By
U.S. Department of the Interior
Bureau of Land Management
Arizona Strip District

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BUREAU OF LAND MANAGEMENT

Arizona Strip District Office
196 East Tabernacle, P. O. Box 250
St. George, Utah 84770-0250

IN REPLY
REFER TO:

4000 (010)

February 1983

Enclosed for your review is the Arizona Strip District's Rangeland Program Summary Update for both the Shivwits and Vermillion Resource Areas. The District has completed the grazing environmental impact statements, rangeland program summaries, and the decision process for both resource areas. The Vermillion Resource Area completed its decision process 2 years ago, and the Shivwits Resource Area completed its decision process 1 year ago.

Both resource areas have accomplished much toward the goal of good public range management as proposed in the environmental impact statements and rangeland program summaries. In addition, some goals have changed in line with new rangeland management policies.

This summary will update you, as of October 1, 1982, of the above accomplishments, goals, and changes.

Sincerely,

G. William Lamb
District Manager

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Vermillion Resource Area

Rangeland Program Summary Update

1982

Vermillion Resource Area

RANGELAND PROGRAM SUMMARY UPDATE - 1982

Introduction

The Arizona Strip District completed and filed the Vermillion Final Grazing Management Environmental Statement (ES) on September 27, 1979 and issued the Rangeland Management Program Summary Report on April 7, 1980. This report is an update of the Rangeland Management Program Summary Report.

After consulting with all affected parties, the Vermillion Resource Area issued all decisions and is now writing and implementing allotment management plans (AMPs) after installing rangeland improvements. This report updates the public on consultation, decisions, monitoring, AMPs, range conditions, and rangeland improvements.

Consultation

The Vermillion Resource Area consulted with several parties before issuing a proposed grazing decision: the rancher, the livestock grazing advisory board, the Arizona Game and Fish Department (AG&FD), the Arizona State Land Department (ASLD), environmental groups, and other federal agencies. The rancher and the ASLD required the most consultation. In March 1980, the resource area began contacting the ranchers involved in the decisions.

The consultation with the rancher was the most active. Resource area range specialists contacted each rancher and explained what the range survey and carrying capacity (or in the case of implemented AMPs the actual use, utilization studies, and trend) concerning his allotment. Where serious disagreements existed or if the rancher requested another range survey or double checking, the resource area did so. The rancher was invited to participate in the review of carrying capacity. Grazing systems for the allotments were negotiated at this time.

After consultations, the rancher and the area manager signed an agreement covering a new initial adjustment for the allotment, the time allowed for reaching the new numbers, and the monitoring studies to be carried out on the allotment. The agreement also included an ASLD clause, which made it clear that ASLD was determining carrying capacity of intermingled lands and that the rancher, BLM, and the ASLD would have to consult on that agency's carrying capacity figure.

In most cases, the BLM went along with the ASLD carrying capacity figures for their lands. On allotments, however, where BLM and ASLD disagreed on carrying capacity of state lands, negotiations settled the differences.

Once the rancher signed the agreement, a proposed decision was sent to the rancher and the ASLD (only where state land was involved). In a few cases ranchers didn't sign the agreements, but decisions were still issued. If National Park lands were involved, the responsible National Park Service office was notified and received a copy of the decision.

In 1979, 1980, 1981, and 1982 the Extension Service of Arizona and Utah sponsored rancher workshops with heavy BLM involvement. Grazing systems, trend methods, inventory methods, utilization methods, and animal husbandry were discussed at the workshops. The workshops also sponsored field trips and testimonies from ranchers on grazing systems. Though none of these workshops were integral to the decisionmaking process, they provided more understanding, consultation, and education for all involved.

Decisions

The Vermillion Resource Area issued 101 decisions. All are now final. All but 14 permittees adjusted livestock numbers to their new stocking levels during the first year. Five permittees accepted a 5-year phase-in period, eight permittees accepted a 3-year phase-in period, and one accepted the reduction over a 2-year period.

Before issuing the decisions, Vermillion Resource Area had a total grazing preference of 129,852 AUMs (animal unit months). Licensed use for the 5 years before issuance of decisions was 93,446 AUMs. The active stocking level after the decisions were issued is 99,308 AUMs, a 6 percent overall increase from licensed use and a 28 percent reduction from the preference. See attachment for allotment-by-allotment analysis.

The reason the new stocking level shows a 6 percent increase from licensed use rather than a 17 percent decrease as shown in the Rangeland Management Program Summary Report of April 1980 is that grazing systems were changed. The larger decrease would have occurred if all the rest-rotation systems had been implemented as previously planned. This would mean a reduction for the rested pasture would have taken place. However, deferred systems were implemented in place of many rest-rotation systems to date, thus it was not necessary to reduce for the rested pasture. Also some rest-rotation systems have not been implemented because funding is not yet scheduled to put range improvements in place, so stocking remains at a higher level.

Monitoring

Up to September 30, 1982, the Vermillion Resource Area has established 180 key areas on 44 allotments under the District Monitoring Plan. The Pace Frequency method is used for trend and the Grazed Class method is used for utilization. The area has 20 rain gauges established east of the Hurricane Cliffs.

When trend is established or read on an allotment or utilization studies are carried out, the responsible range conservationist contacts the rancher to invite him to participate in the studies. Actual livestock use will, and is being, gathered from ranchers on AMPs.

The Pace Frequency method of trend and the Grazed Class utilization method were developed by University of Arizona range personnel, who helped apply them

both in the Arizona Strip through a series of field meetings.

The district monitoring plan was then developed and passed around to all interested parties for comment. In November 1981 the District Monitoring Plan became final.

AMPs and Grazing Systems

While the ES was being prepared, the Resource Area had 12 allotments under signed AMPs, 3 of which were not fully implemented. The area now has 17 implemented intensive management AMPs and 6 less-intensive management AMPs for a total of 23 implemented AMPs. Seven allotments have partially implemented AMPs, and an additional seven have signed AMPs awaiting funds for implementation. The intensive management AMPs include a rotation grazing system with BLM-sponsored projects.

The allotments with a less-intensive AMP have no grazing systems or government-sponsored range projects. The less-intensive systems require a lower stocking rate to keep average forage utilization at or below 45 percent. Ranchers can install range improvements using their own funds.

Originally 66 intensive AMPs were to be written and implemented in the resource area. But, as each allotment designated for an AMP is reviewed it is checked with the Final Grazing Management Policy of March 5, 1982. Some allotments have been and will be changed from intensive to less-intensive and vice versa. Another reason for change is allotments change in ownership and allotments are split because owners want to be separate. These changes are made to allow the investment of government money to provide the greatest ecological and economical returns.

Range Conditions

Range conditions, apparent, and actual trend remain as shown in the Vermillion Proposed Grazing Management Draft ES. Actual trend studies will be updated in 1986 (some will be done earlier or later in accordance with schedules

in allotment management plans), allowing enough time and adequate readings to determine actual trends and forage utilization.

Rangeland Improvements

Since the decisions were issued the resource area has built 19 water catchments (80,000 gallon capacity each), four storage tanks, 32 miles of fence, 19 miles of pipeline, and one well. In addition, 1,200 acres of land treatment (burning, plowing, and seeding) have been completed. These projects were needed to implement eight AMPs, which increased total implemented AMPs to 17. Some of the projects have allowed seven other AMPs to be partially completed. The total cost of these projects as of October 1, 1982 has amounted to $303,000 from range funds (8100 and 4322).

No.	Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
5200	Rock Canyon	193	168	126	-35	-25	----
5201	Haslem Spring	42	55	108	+157	+96	----
5202	Glazier Dam	604	598	571	-6	-5	1982
5203	Perkins (combined with Canaan Gap)						
5204	Cove	12	12	12	0	0	----
5205*	Canaan Gap	321	318	275	-14	-14	1981
5206	Antelope	1,310	1,252	1,012	-23	-19	----
5207	Atkin Well	1,728	1,728	1,310	-24	-24	----
5208	Wells	530	364	298	-44	-18	1980
5209	Cottonwood	310	296	284	-8	-4	1980
5210	Antelope Spr.	1,167	1,149	1,157	-1	+1	----
5211	Lynn & Tone	288	197	216	-25	+10	----
5212	Cane Beds	376	381	324	-14	-15	----
5213	Rock Pockets	1,762	1,729	1,760	0	+2	1981
5214	Flat Top Well	760	683	752	-1	+10	----
5215*	Clayhole AMP	15,887	14,148	14,700	-7	+4	1969
5216	Temple Trail	2,470	2,387	2,370	-4	-1	1982
5217*	Fern Tank	5,870	4,249	4,806	-18	+13	1968
5218	Mt. Logan	5,531	3,741	3,444	-38	-8	1981
5219	Crosby Tank	359	317	232	-35	-27	----
5220*	Tuweep	2,827	1,936	2,084	-26	+8	1973
5221*	June Tank	9,780	4,811	6,873	-30	+42	1975
5222	Sunshine (combined with Wildband)						
5223*	Wildband	3,198	2,378	3,113	-3	+31	1975
5224	Kanab Gulch	210	111	105	-50	-5	1982

*AMPs implemented

No.	Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
5225	Gramma Spring	466	422	192	-59	-54	1981
5226	Sunshine Point	840	820	864	+2	+28	----
5227*	Hacks	423	304	149	-65	-51	1981
5228	Water Canyon (combined with Lamb Tank)						
5229	Heaton-Findlay (combined with Moonshine)						
5230	Gulch	176	90	96	-45	+6	1982
5231	South Bullrush	172	172	172	0	0	----
5232	Hacks Canyon	1,230	1,148	1,049	-15	-9	----
5233	Gramma Point	2,079	2,013	2,057	-1	+2	1980
5234	Valley Wash	301	295	262	-13	-11	----
5235	Pipe Spring	44	49	74	+68	+50	----
5236	Scottie Seep	442	443	539	+22	+22	----
5237*	Moonshine	1,523	982	1,031	-32	+5	1981
5238	Harris Well	318	268	272	-14	+1	----
5239	Haslem Spr. (Ut)	151	145	151	0	+4	----
5240	Short Creek (Ut)	252	243	252	0	+4	----
5241	Gallagher Tank	857	776	682	-20	-12	----
5242	Pipe Valley	461	401	412	-11	+2	----
5243	White Pocket	264	296	420	+59	+42	----
5244	Stateline	29	29	29	0	0	----
5245	Joe	24	24	24	0	0	----
5246	Ferrin	272	216	120	-56	-44	----
5247	Sunshine Tank	804	581	751	-7	+29	1982
5248	Swapp Tank	980	910	958	-2	+5	1981
5249	Yellowstone (combined with Rock Pockets)						

*AMPs implemented

No.	Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
5250	Big Springs (combined with Mt. Logan)						
5251	Hurricane Cliffs	463	144	463	0	+221	----
5252	Lytle Spring	554	544	518	-6	-5	----
5253	Homestead	1,088	822	654	-40	-20	----
5254	Hurricane Rim	996	982	996	0	+1	----
5255	Sims Reservoir (combined with Moonshine)						
5256	Hack Reservoir (combined with Lamb Tank)						
5257	Lamb Tank	818	538	420	-49	-22	1981
5258	Cedar	1,612	1,449	1,204	-25	-17	----
5259	Meeks Reservoir	472	443	420	-11	-5	----
5260	Loco Point	298	303	535	+80	+77	----
5261	Big Spring (combined with Mt. Logan)						
5262	Cold Spring (combined with Mt. Logan)						
5263	Cole Spring (combined with Mt. Logan)						
5264	Little Spring (combined with Mt. Logan)						
5265	Kenworthy (combined with Mt. Logan)						
5266	Head of Tuweep (combined with Mt. Logan)						
5267	Toroweap (combined with Mt. Logan)						
5268	Faught Place	32	0	29	-9	0	----
5269	Russel Fields	60	60	60	0	0	----
5270	Short Creek	207	207	207	0	0	----
5300	Lost Spring Gap	72	42	48	-33	+14	----
5301	Shinarump	40	40	40	0	0	----
5302	Brown-Shumway	156	119	114	-27	-4	1980
5303*	Cedar Ridge	132	82	78	-41	-5	1981

*AMPs implemented

No.	Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
5304	8-Mile Pass	36	25	17	-53	-32	----
5305*	Ryder	219	43	131	-51	+151	1982
5306	----------						
5307	Chatterly	459	427	370	-19	-13	1981
5308*	Button	436	227	277	-36	+22	1981
5309*	Shuttleworth	1,677	679	1,091	-35	+61	1980
5310*	Cowboy Butte	227	139	227	0	+63	1970
5311	Sage	243	169	243	0	+43	----
5312	Highway (combined with Moonshine)						
5313*	Muggins Flat	792	266	268	-66	+1	1980
5314*	Pratt Tank	947	272	800	-16	+194	1981
5315	Johnson Run (combined with Moonshine)						
5316	Spooks Knoll (combined with Rock Canyon Tank)						
5317	Jacob Canyon	219	98	140	-36	+43	----
5318*	Cedar Knoll	1,500	777	960	-36	+24	1972
5319	Rock Canyon Tk	1,584	574	690	-56	+20	1980
5320*	Gunsight	560	494	423	-24	-14	1981
5321	Kanab Creek	255	27	168	-33	+522	1980
5322	Pigeon Tank	1,032	694	581	-44	-16	1980
5323	Suicide (combined with Pigeon Tank)						
5324*	Fuller Road	2,187	1,259	1,478	-32	+17	1974
5325	Franks Reservoir	265	234	108	-59	-54	----
5326	----------						
5327	Coyote	3,168	1,319	1,713	-46	+30	----
5328*	Two Mile	4,011	3,934	3,035	-24	-23	1980

*AMPs implemented

No.	Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
5329*	Vermillion	14,118	11,757	11,658	-17	-1	1974 & 1981
5330*	Home Ranch (combined with Vermillion)						
5331*	House Rock	2,226	1,827	1,610	-28	-12	1971
5332	Soap Creek	3,147	1,696	2,192	-30	+29	----
5333	Cram	3,360	1,380	1,888	-44	+37	1980
5334	Beanhole	2,555	1,111	1,314	-49	+18	1980
5335*	Buffalo Tank	3,326	2,556	2,016	-39	-21	1974
5336	Ferry Swale	1,884	661	1,230	-35	+86	----
5337	Lees Ferry	1,126	60	400	-64	+566	----
5338	----------						
5339	----------						
5340	Wahweep	1,248	472	732	-41	+55	----
5341*	Badger Creek	224	137	93	-58	-32	1982
5342	Ferry Swale (Ut)	144	30	68	-53	+1	----
5343	----------						
5344	Shinarump (Ut) (combined with Brown-Shumway)						
5345	Rock Reservoir	22	19	13	-41	-32	----
5346	Pine Hollow (Ut)	533	160	289	-46	+81	----
5347	Wire Pass (Ut) (combined with Two Mile)						
5348	Navajo Wells (Ut) (combined with Fuller Road)						
5349*	White Sage	1,017	415	429	-58	+3	1974
5350	Signature Rock	475	298	382	-20	+28	----
Grand Total		129,852	93,446	99,308	-28%	+6%	

*AMPs implemented

Shivwits Resource Area

Rangeland Program Summary Update

1982

Shivwits Resource Area

RANGELAND PROGRAM SUMMARY UPDATE - 1982

Introduction

The Arizona Strip District completed and filed the Shivwits Final Grazing Management Environmental Impact Statement (EIS) on July 15, 1980 and issued the Rangeland Management Program Summary Report on January 1, 1981. This report is the first update of the program summary report. The Shivwits Resource Area began issuing proposed grazing decisions on December 15, 1980, (all are now final) and is now writing and implementing allotment management plans (AMPs), establishing key areas, and installing range improvements. This report updates the public on consultation, decisions, monitoring (key areas), AMPs, range conditions, and rangeland improvements.

Consultation

The Shivwits Resource Area consulted with several parties during the decisionmaking process. The rancher and the Arizona State Land Department (ASLD), however, were the primary parties consulted, as they were to be most affected. Other parties, involving the full spectrum of public land users, were contacted as to their interest in the grazing decisions per allotment. Other than the rancher and the ASLD, two parties requested copies of each decision: the Sierra Club and the Arizona Game and Fish Department (AG&FD).

The consultation with the rancher was the most active. Resource area range specialists contacted each rancher and explained what the range survey (or in the case of implemented AMPs the actual use, utilization studies, and trend) concerning his allotment. If the rancher requested another range survey or double checking, the resource area did so, with the rancher present. Once the rancher and the area manager reached and signed an agreement, the proposed grazing decision was issued, showing the rancher's initial adjustment and the

time outlined in the agreement over which the adjustment was to be made. In the case where the rancher refused to sign the agreement, the BLM still issued the decision.

The resource area used ASLD carrying capacity for calculating percent federal range.

The Extension Service of Arizona and Utah sponsored rancher workshops that included BLM participation in 1979, 1980, 1981, and 1982. Grazing systems, trend methods, inventory methods, utilization methods, and animal husbandry were discussed at these workshops. The workshops also sponsored field trips and testimonies from ranchers on grazing systems. Though none of these workshops were integral to the decisionmaking process, they provided more understanding, consultation, and education for all involved.

Decisions

The Shivwits Resource Area issued 89 decisions. All are now final. Seventy-eight ranchers adjusted livestock numbers to their new stocking level during the first year after the decisions were issued. Eleven ranchers with sizeable reductions in livestock numbers asked for a 3- to 5-year phased-in reduction. This was done in conformance to regulations.

The AG&FD and the Sierra Club received copies of all decisions, and the ASLD, ranchers, and the National Park Service received copies of decisions involving their lands or allotments.

Before the decisions were issued, the Shivwits Resource Area had a grazing preference of 108,739 AUMs (animal unit months). Actual use for the 5 years before issuance of decisions was 83,580 AUMs. The stocking level after the decisions is 81,006 AUMs, a 4 percent reduction from actual use and a 26 percent reduction from the preference. See attachment for an allotment-by-allotment analysis.

Monitoring

During the past year the resource area has established 223 key areas on 54 allotments designated for intense and less intense management. Custodial allotments will not have key areas. Other key areas will be established as needed.

Trend is measured by the Pace Frequency method, and utilization is determined by the Grazed Class method. Precipitation is measured at 20 sites across the area. Actual use is kept by the ranchers and submitted to the BLM. These trend and utilization methods were developed by University of Arizona range personnel, who helped apply them on the Arizona Strip District through a series of field trips and demonstrations.

A District Monitoring Plan, which was circulated to all interested parties for comment, became final in November 1981. The affected rancher is invited to participate in the establishment and reading of the monitoring studies.

Range Conditions

Range conditions remain as shown in the Shivwits Proposed Grazing Management Draft EIS--263,802 acres in good condition, 538,745 acres in fair condition, and 1,046,348 acres in poor condition. After 5 to 10 years the monitoring studies should detect any shifts in the range condition.

AMPs and Grazing Systems

The Shivwits Resource Area had 16 implemented intensive AMPs before any decisions were issued. Now 17 intensive AMPs and 2 less-intensive AMPs have been implemented and an additional 9 AMPs have been written and are awaiting implementation. The Rangeland Program Summary called for 40 intensive AMPs, but this number may change in compliance to the Final Grazing Management Policy issued on March 5, 1982. As each AMP is written, it is reviewed to see if it meets the criteria for intensive management, less-intensive management, or

custodial management. The scarcity of available funds will require investment in rangeland improvements that yield the greatest ecological and economical returns from the investment.

Intensive management AMPs will include rotation grazing systems with BLM-sponsored projects to aid in implementing the AMPs. The less-intensive AMPs will prescribe no grazing systems and few BLM-sponsored projects. Forage utilization under the less-intensive systems will be held to 45 percent (rather than the 50 percent under intensive management), and ranchers can build range improvements using their own funds.

Rangeland Improvements

The Shivwits Resource Area has accomplished the following projects since the last grazing decision was issued in September 1981:

1. One 35,000-gallon catchment
2. Three 80,000-gallon catchments
3. 9.3 miles of fence (approximate)
4. 2,050 acres of land treatment

Three catchments and 1.5 miles of fence went toward implementing new AMPs. The remainder helped complete implementation of the 16 existing AMPs. As of September 27, 1982 these projects have cost approximately $190,000 from range funds (4322 and 8100).

Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
Pakoon Spring	1,261	907	1,394	+10	+35	1982
Jump Canyon	2,286	2,177	1,351	-41	-38	1981
Whiterock-Soapstone*	1,120	1,120	1,320	+15	+15	1969
Mainstreet*	11,748	7,751	8,358	-29	+8	1973
Shelly	108	108	107	-1	-1	----
Snyder	91	91	134	+32	+32	----
Poverty*	5,851	5,028	5,278	-9	-6	1974
Mosby-Nay	1,202	1,155	1,148	-4	-1	1982
Beaver Dam*	903	879	1,087	+17	+20	1970
Black Rock*	2,867	1,479	1,463	-49	-1	1969
Cedar Wash	466	469	374	-20	-20	1981
Quail Canyon*	751	666	809	+7	+18	1982
Cottonwood	2,303	1,791	1,831	-20	+2	1982
Pats Pond	69	61	60	-13	-2	----
Sullivan Canyon*	2,203	1,232	962	-56	-22	1974
Cedar Pockets	271	271	273	+1	+1	1970
Highway	260	260	262	+1	+1	1982
Mine Valley	435	325	325	-25	0	1970
Wolfhole Canyon	3,462	2,010	3,460	0	+42	1982
Blake Pond	1,700	1,485	1,317	-23	-11	1981
Little Wolf*	640	250	280	-56	+11	1970
Link Spring	1,779	1,150	1,094	-39	-5	1982
Last Chance	955	879	609	-36	-31	1982
Sullivan Tank	974	974	324	-67	-67	1981
Imlay	1,380	1,328	734	-47	-45	1982

*Implemented AMPs

Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Licensed	Monitoring Initiated
Duncan Tank*	583	394	429	-26	+8	1970
Hidden Spring	1,887	995	1,256	-33	+21	1982
West Belnap	339	271	204	-40	-25	1982
Mule Canyon	1,472	644	585	-60	-9	1982
Mt. Trumbull*	1,162	1,236	1,553	+25	+20	1970
Mormon Well	434	434	552	+22	+25	1982
Sunshine	1,218	988	1,440	+16	+32	1982
Jackson Tank*	981	747	857	-13	+13	1969
Wolfhole Lake	798	723	928	+14	+22	1982
Lizzard	180	168	208	+13	+19	1978
Grassie Mountain	10,174	4,950	4,655	-54	-6	1982
Pakoon	989	760	989	0	+23	1982
Mosby	109	109	37	-66	-66	1981
Mesquite Community	2,700	2,700	1,936	-28	-28	1981
Littlefield Community	4,301	3,237	2,321	-47	-29	1982
Parashaunt*	3,708	3,292	3,178	-14	-3	1974
Rosenberry	172	168	168	-2	0	----
Purgatory	466	427	378	-19	-11	1982
Pakoon	534	534	534	0	0	1982
Diamond Butte	408	341	395	-3	+14	1982
Iverson	36	36	48	+33	+33	----
Mustang Spring	566	564	491	-13	-13	1982
Hat Knoll*	307	0	500	+63	+100	1972
Lower Hurricane*	5,193	3,620	3,479	-34	-4	1972
Black Canyon*	246	0	243	-1	+100	1972

*AMPs implemented

Allotment	Total Preference	Licensed Use	Initial Adjustment	Percent Change Pref.	Percent Change Licensed	Monitoring Initiated
Lambing	486	486	429	-12	-12	1981
Starvation Point	28	12	42	+50	+71	----
Wolfhole Mountain	424	390	315	-26	-19	----
Pocum	656	534	494	-25	-7	1982
Mud and Cane	5,130	4,889	4,668	-9	-6	1982
Littlefield Free Use	160	160	120	-25	-25	1981
Dripping Spring	973	401	448	-54	+10	1982
Penns Well	137	106	144	+5	+26	1982
Clay Spring*	960	1,142	1,207	+20	+5	1969
Pa's Pocket	647	636	483	-25	-24	1982
Belnap	714	714	524	-27	-27	----
Wildcat	6,683	6,532	4,593	-31	-30	1982
Home Ranch	2,970	2,732	1,799	-39	-34	----
Toquer Tank*	1,576	1,012	1,467	-7	+31	1969
Tassi	1,188	1,188	1,188	0	0	1981
Little Tank*	623	623	693	+10	+10	1969
Ivanpah*	1,089	739	601	-45	-19	1969
Totals	108,492	83,580	83,362	-26	-4.0	

*AMPs implemented

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